

# PATENT COOPERATION TREATY

RECEIVED

14 AUG 2001

B.B.

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

To:

BARNARD, E.  
BROOKES & MARTIN  
High Holborn House  
52/54 High Holborn  
London WC1V 6SE  
GRANDE BRETAGNE

Date of mailing  
(day/month/year) 10.08.2001

Applicant's or agent's file reference  
EEB/AKW

### IMPORTANT NOTIFICATION

International application No.  
PCT/GB99/02435

International filing date (day/month/year)  
26/07/1999

Priority date (day/month/year)  
26/07/1999

Applicant  
MOSS, Frederick, James et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer

Himmel, U

Tel. +49 89 2399-2876




# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>EEB/AKW</b>		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) <b>FOR FURTHER ACTION</b>	
International application No. <b>PCT/GB99/02435</b>	International filing date (day/month/year) <b>26/07/1999</b>	Priority date (day/month/year) <b>26/07/1999</b>	
International Patent Classification (IPC) or national classification and IPC <b>E04H17/00</b>			
Applicant <b>MOSS, Frederick, James et al.</b>			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>			
Date of submission of the demand  <b>13/02/2001</b>		Date of completion of this report  <b>10.08.2001</b>	
Name and mailing address of the international preliminary examining authority:  <b>European Patent Office</b> <b>D-80298 Munich</b> <b>Tel. +49 89 2399 - 0 Tx: 523656 epmu d</b> <b>Fax: +49 89 2399 - 4465</b>		Authorized officer  <b>Isailovski, M</b>  Telephone No. <b>+49 89 2399 7263</b>	



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/02435

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

1-6 as originally filed

### Claims, No.:

1-10 as originally filed

### Drawings, sheets:

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/02435

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims	1-10
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-10
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-10
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

Re Item V

1. The closest prior art is described in GB-A-2 290 565 which discloses (the references in parenthesis applying to this document):  
**an anti-scaling device** (see Fig.2 and 6; page 4, lines 10-11) **comprising a hollow central body portion** (see Fig.1, ref. sign (1)=rotatable sleeves) **for mounting on a bar** (see Fig.1, ref. sign (5)=axle) **around a transverse axis** (see page 4, lines 15-17) **and several spike units** (see Fig.1, ref. sign (2)) **extending outwardly from the body portion in different directions** (see Fig.1, ref. sign (2); page 4, lines 19).
2. **The problem to be solved by the present application is to provide a more effective and inexpensive anti-scaling device.**
3. **The solution is accomplished by** (the references in parenthesis applying to the current application):  
**mounting the spike units** (see Fig.1, ref. sign (5)) **for rotation about radial axes extending out from the body portion** (see Fig.1, ref. sign (5)), **said axes being non-congruent with the transverse axes** (see Fig. 1, ref. sign (3) = transverse axis)
4. Such device is, in respect of the available prior art, novel, and moreover, there is no teaching in the available prior art which would have led the skilled man to the device claimed (see also point 7 herein below).
5. The subject matter of claim 1 is therefore both novel and involves an inventive step. The device claimed is also industrially applicable. Therefore, the requirements of Articles 33(2), (3) and (4) PCT are met.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB99/02435

6. Dependent claims 2-10 describe further embodiments of the anti-scaling device of claim 1 and also meet the requirements of Article 33 PCT.

**Re Item VIII**

7. It should be noted that the following expression included in claim 1:  
"[...] wherein the spike units are **rotatably mounted** on the central body portion around axes non-congruent with the transverse axis."  
has been interpreted as meaning that the spike units are mounted on the central body, said spike units having the possibility to rotate around axes non-congruent with the transverse axis.  
Otherwise, the combination of features of claim 1 could be regarded as being disclosed by document D1.

PCT

NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

BARNARD, Eric, Edward  
Brookes & Martin  
High Holborn House  
52/54 High Holborn  
London WC1V 6SE  
ROYAUME-UNI**RECEIVED**  
- 9 FEB 2001  
**BROOKES & MARTIN**

Date of mailing (day/month/year) 01 February 2001 (01.02.01)		<b>IMPORTANT NOTICE</b>	
Applicant's or agent's file reference EEB/55			
International application No. PCT/GB99/02435	International filing date (day/month/year) 26 July 1999 (26.07.99)	Priority date (day/month/year)	
Applicant MOSS, Frederick, James et al			

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:  
AU, KP, KR, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AL, AM, AP, AT, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EA, EE, EP, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, OA, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on  
01 February 2001 (01.02.01) under No. WO 01/07733

**REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)**

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))**

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

## PATENT COOPERATION TREATY

EEB

PCT

INFORMATION CONCERNING ELECTED  
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

From the INTERNATIONAL BUREAU

To:

BARNARD, Eric, Edward  
Brookes & Martin  
High Holborn House  
52/54 High Holborn  
London WC1V 6SE  
ROYAUME-UNI

RECEIVED

MARTIN

Date of mailing (day/month/year) 30 March 2001 (30.03.01)		IMPORTANT INFORMATION	
Applicant's or agent's file reference EEB/55			
International application No. PCT/GB99/02435	International filing date (day/month/year) 26 July 1999 (26.07.99)	Priority date (day/month/year)	
Applicant MOSS, Frederick, James et al			

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

AP : GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW

EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

National : AU, BG, CA, CN, CZ, DE, IL, JP, KP, KR, MN, NO, NZ, PL, RO, RU, SE, SK, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

OA : BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

National : AL, AM, AT, AZ, BA, BB, BR, BY, CH, CU, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID,  
IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MW, MX, PT, SD, SG, SI, SL, TJ, TM, TR,  
TT, UA, UG, UZ, VN, YU, ZW

3. The applicant is reminded that he must enter the "national phase" **before the expiration of 30 months from the priority date** before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until **31 months from the priority date** for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. (41-22) 740.14.35	Authorized officer:  Juan Cruz  Telephone No. (41-22) 338.83.38
--	---



## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 30 March 2001 (30.03.01)	
International application No. PCT/GB99/02435	Applicant's or agent's file reference EEB/55
International filing date (day/month/year) 26 July 1999 (26.07.99)	Priority date (day/month/year)
Applicant MOSS, Frederick, James et al	

1. The designated Office is hereby notified of its election made:

☒

in the demand filed with the International Preliminary Examining Authority on:

13 February 2001 (13.02.01)

☐

in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was☐

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
 34, chemin des Colombettes  
 1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Juan Cruz

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

BARNARD, Eric, Edward  
Brookes Batchellor  
102-108 Clerkenwell Road  
London EC1M 5SA  
ROYAUME-UNI

Date of mailing (day/month/year) 10 January 2002 (10.01.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference EEB/55	
International application No. PCT/GB99/02435	International filing date (day/month/year) 26 July 1999 (26.07.99)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent <input type="checkbox"/> the common representative
Name and Address HUGHES, Mark, Christopher 60 Monmouth Road Warley Wood Birmingham B67 5EE United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence
Name and Address HUGHES, Mark, Christopher Rotherwood 17 Summerfield Road Clent Worcestershire DY9 9RG United Kingdom	State of Nationality GB	State of Residence GB
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer R. Chrem
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

BARNARD, Eric, Edward  
Brookes Batchellor  
102-108 Clerkenwell Road  
London EC1M 5SA  
ROYAUME-UNI

Date of mailing (day/month/year)

10 January 2002 (10.01.02)

Applicant's or agent's file reference

EEB/55

## IMPORTANT NOTIFICATION

International application No.

PCT/GB99/02435

International filing date (day/month/year)

26 July 1999 (26.07.99)

1. The following indications appeared on record concerning:

☒

the applicant

☒

the inventor

☐

the agent

☐

the common representative

Name and Address

HUGHES, Mark, Christopher  
60 Monmouth Road  
Warley Wood  
Birmingham B67 5EE  
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐

the person

☐

the name

☒

the address

☐

the nationality

☐

the residence

Name and Address

HUGHES, Mark, Christopher  
Rotherwood  
17 Summerfield Road  
Clent  
Worcestershire DY9 9RG  
United Kingdom

State of Nationality

GB

State of Residence

GB

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒

the receiving Office

☐

the designated Offices concerned

☐

the International Searching Authority

☒

the elected Offices concerned

☒

the International Preliminary Examining Authority

☐

other:

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

R. Chrem

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

BARNARD, Eric, Edward  
Brookes Batchellor  
102-108 Clerkenwell Road  
London EC1M 5SA  
ROYAUME-UNI

Date of mailing (day/month/year) 30 July 2001 (30.07.01)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference EEB/55	
International application No. PCT/GB99/02435	International filing date (day/month/year) 26 July 1999 (26.07.99)

## 1. The following indications appeared on record concerning:

☐ the applicant    ☐ the inventor    ☒ the agent    ☐ the common representative

Name and Address BARNARD, Eric, Edward Brookes & Martin High Holborn House 52/54 High Holborn London WC1V 6SE United Kingdom	State of Nationality	State of Residence
	Telephone No. 0171 242 9631	
	Facsimile No. 0171 831 0586	
	Teleprinter No.	

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person    ☐ the name    ☒ the address    ☐ the nationality    ☐ the residence

Name and Address BARNARD, Eric, Edward Brookes Batchellor 102-108 Clerkenwell Road London EC1M 5SA United Kingdom	State of Nationality	State of Residence
	Telephone No. 44 20 7253 1563	
	Facsimile No. 44 20 7253 1214	
	Teleprinter No.	

## 3. Further observations, if necessary:

## 4. A copy of this notification has been sent to:

<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer R. Chrem
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>EEB/55</b>	<b>FOR FURTHER ACTION</b>		see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. <b>PCT/GB 99/ 02435</b>	International filing date (day/month/year) <b>26/07/1999</b>	(Earliest) Priority Date (day/month/year)	
Applicant <b>MOSS, Frederick, James et al.</b>			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the language, the International search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the International search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

GB 99/02435

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 E04H17/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E04H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 242 092 A (HERCULES SECURITY FAB) 21 October 1987 (1987-10-21) column 2, line 48 -column 4, line 19; figures	1,3,5,10
Y	----	7
X	GB 2 225 598 A (SUMMERS DENNIS) 6 June 1990 (1990-06-06) page 3, line 4 -page 4, line 8; claim 6; figures 1,2	1,3
X	GB 2 234 273 A (WAITE DAVID PETER) 30 January 1991 (1991-01-30) page 7, line 9 - line 19; figure 5	1,3
Y	DE 86 24 656 U (H. LÖVEN) 22 January 1987 (1987-01-22) page 4, paragraph 1; figures 1,2	7
	----- -/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

6 March 2000

Date of mailing of the international search report

13/03/2000

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

Authorized officer

Kriekoukis, S

# INTERNATIONAL SEARCH REPORT

International Application No

GB 99/02435

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 290 565 A (KING JUNIOR MICHAEL JOSEPH) 3 January 1996 (1996-01-03) page 4, line 7 -page 5, line 12; figures 1,3,4	1,3
A	-----	7

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

GB 99/02435

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0242092	A	21-10-1987	AT 58946 T	15-12-1990
			AU 582044 B	09-03-1989
			AU 7109887 A	15-10-1987
			CA 1283317 A	23-04-1991
			GR 3001557 T	23-11-1992
			IN 169349 A	28-09-1991
			NZ 219924 A	24-02-1989
			US 4739970 A	26-04-1988
			ZA 8702549 A	30-11-1988
GB 2225598	A	06-06-1990	NONE	
GB 2234273	A	30-01-1991	HK 18595 A	17-02-1995
			US 5310163 A	10-05-1994
DE 8624656	U	22-01-1987	NONE	
GB 2290565	A	03-01-1996	NONE	



# PATENT COOPERATION TREATY

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From the  
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### NOTIFICATION OF RECEIPT OF DEMAND BY COMPETENT INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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Date of mailing  
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01.03.01

Applicant's or agent's file reference

EEB/AKW

#### IMPORTANT NOTIFICATION

International application No.

PCT/GB 99/02435

International filing date (day/month/year)

26/07/1999

Priority date (day/month/year)

26/07/1999

Applicant

MOSS, Frederick, James et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

13/02/2001

2. This date of receipt is:

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Authorized officer

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# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For recipient Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference  
(if desired) (12 characters maximum)

**Box No. I TITLE OF INVENTION**

ANTI-SCALING DEVICE

**Box No. II APPLICANT**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

MOSS, FREDERICK JAMES  
TREETOPS  
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☒ This person is also inventor.

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Facsimile No.

Teleprinter No.

State (that is, country) of nationality:  
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State (that is, country) of residence:  
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This person is applicant  
for the purposes of:



all designated  
States



all designated States except  
the United States of America



the United States  
of America only



the States indicated in  
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**Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)**

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

HOLLAND, JANUSZ LUCIEN  
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GREAT BRITAIN

This person is:



applicant only



applicant and inventor



inventor only (If this check-box  
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State (that is, country) of residence:  
GB

This person is applicant  
for the purposes of:



all designated  
States



all designated States except  
the United States of America



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of America only



the States indicated in  
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☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

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The person identified below is hereby/has been appointed to act on behalf  
of the applicant(s) before the competent International Authorities as:



agent



common representative

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BARNARD, ERIC EDWARD  
BROOKES & MARTIN  
HIGH HOLBORN HOUSE  
52/54 HIGH HOLBORN  
LONDON WC1V 6SE

Telephone No.

0171-242-9631

Facsimile No.

0171-831-0586

Teleprinter No.

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HUGHES, MARK CHRISTOPHER  
60 MONMOUTH ROAD  
WARLEY WOOD  
BIRMINGHAM B67 5EE  
GREAT BRITAIN

This person is:

- ☐ applicant only  
☒ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:  
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This person is:

- ☐ applicant only  
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☐ inventor only (If this check-box is marked, do not fill in below.)

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This person is:

- ☐ applicant only  
☐ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

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This person is:

- ☐ applicant only  
☐ applicant and inventor  
☐ inventor only (If this check-box is marked, do not fill in below.)

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Box No. VI PRIORITY CLAIM		<input type="checkbox"/> Further priority claim indicated in the Supplemental Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application:* regional Office	international application: receiving Office
item (1)				
item (2)				
item (3)				

☐ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s):

\* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

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ISA /

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Date (day/month/year)

Number

Country (or regional Office)

## Box No. VIII CHECK LIST; LANGUAGE OF FILING

This international application contains the following number of sheets:

request : 4  
 description (excluding sequence listing part) : 6  
 claims : 2  
 abstract : 1  
 drawings : 8  
 sequence listing part of description : \_\_\_\_\_

Total number of sheets : 21

This international application is accompanied by the item(s) marked below:

1. ☐ fee calculation sheet
2. ☐ separate signed power of attorney
3. ☐ copy of general power of attorney; reference number, if any:
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8. ☐ nucleotide and/or amino acid sequence listing in computer readable form
9. ☐ other (specify):

Figure of the drawings which should accompany the abstract: 1

Language of filing of the international application:

English

## Box No. IX SIGNATURE OF APPLICANT OR AGENT

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

BARNARD, ERIC EDWARD  
 REPRESENTATIVE OF THE APPLICANT

26/07/99

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(43) International Publication Date  
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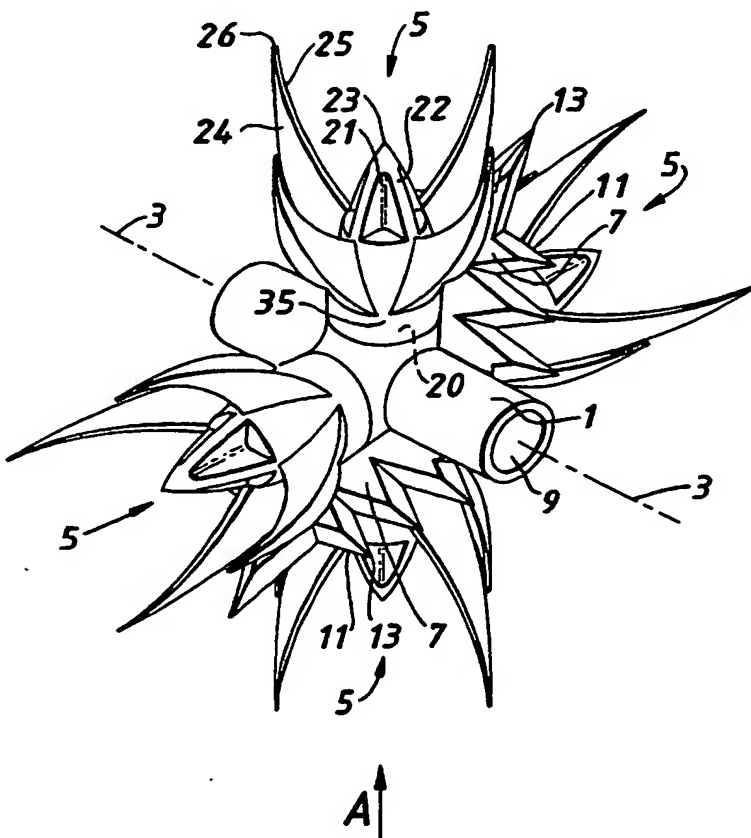
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(10) International Publication Number  
**WO 01/07733 A1**

- (51) International Patent Classification<sup>7</sup>: E04H 17/00 (74) Agent: BARNARD, Eric, Edward; Brookes & Martin, High Holborn House, 52/54 High Holborn, London WC1V 6SE (GB).
- (21) International Application Number: PCT/GB99/02435
- (22) International Filing Date: 26 July 1999 (26.07.1999) (81) Designated States (*national*): AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW.
- (25) Filing Language: English
- (26) Publication Language: English
- (71) Applicants and  
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HUGHES, Mark, Christopher [GB/GB]; 60 Monmouth Road, Warley Wood, Birmingham B67 5EE (GB).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ANTI-SCALING DEVICE



(57) Abstract: An anti-scaling device comprises a hollow central body (1) for mounting on a bar and several spike units (5) extending outwardly from the body (1) in different directions. Pairs of spike units (5) are rotatably and preferably detachably mounted on opposite sides of the central body (1). The device may further comprise serrated webs (7) extending outwardly from the central body (1) between the spike units (5). The device may also comprise rows of sharp-edged teeth (15) axially aligned along the central body (1). In an alternative embodiment the spike units (5) are in the form of partially rotatable serrated propellers (37). In another embodiment the spike units (5) are pivotably rotatably mounted. Preferably the device is moulded from plastics material.

WO 01/07733 A1



**Published:**

- With international search report.
- With amended claims.

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

1  
**ANTI-SCALING DEVICE**

**Field of Invention**

5           This invention relates to anti-scaling device, particularly rotary anti-scaling devices which can be positioned on top of fences, walls and gates in order to prevent potential intruders scaling such structures.

**Description of Art**

10           Rotary anti-scaling devices generally comprise metal spike units extending from a central mounting bar or vanes of expanded metal projecting from a central rotary bar. These arrangements are prone to scaling using rope and are of relatively fragile construction. Furthermore they are relatively expensive to produce and are aesthetically unappealing.

15

Other devices consist of two identical halves of plastics material designed to connect together to form unitary spikes and be rotatably mounted on an associated bar.

It is an object of the present invention to provide a more effective anti-scaling  
20 device of relatively inexpensive construction.

**Summary of the Invention**

According to the present invention there is provided an anti-scaling device comprising a hollow central body portion for mounting on a bar and several spike units



extending outwardly from the body portion in different directions wherein the spike units are rotatably mounted and preferably rotatably and detachably mounted on the central body portion.

5            Preferably there are pairs of spike units extending in a diametrically opposed relationship from the central body portion. It is convenient to make the spike unit separately from the body portion and to mount the spike units for rotation about radial axes extending out from the body portion. In addition serrated webs can be disposed between the spike units. This particular construction makes it virtually impossible for  
10 an intruder to grab hold of any part of the device, tamper with or attach a rope to it.

            The spike unit may have a plurality of generally arcuate blade-like projections with sharp edges and a sharp tip. These spike units when not in use can be detached and replaced in the event of any damage or according to the structure they are  
15 securing.

            The device with its various components may be made from any tough, resilient material. Ideally, the device is moulded from a plastics material, particularly a high impact thermoplastic material. The device with its various components can come in an  
20 assortment of colours for decorative purposes.

            In use the anti-scaling device is rotatably mounted on a bar which passes through the hollow central body portion along the transverse axis. Preferably a plurality of such anti-scaling devices are rotatably mounted on a bar with the ends of

respective central body portions abutting each other. The bar can then be fixed to an associated structure such as a fence, gate or wall etc.

The invention may be understood more readily and various other aspects and  
5 features of the invention may become apparent from consideration of the following description.

Embodiments of the present invention will now be described with reference to the accompanying drawings in which:

10

#### **Brief Description of the Drawings**

Figure 1 is a perspective view of a first embodiment of an anti-scaling device constructed in accordance with the invention;

15

Figure 2 is an inverted plan view of the first embodiment of the anti-scaling device taken in the direction of arrow A in Figure 1;

Figure 3 is a side view of the first embodiment of the anti-scaling device;

20

Figure 4 is an expanded perspective view illustrating a second embodiment of an anti-scaling device constructed in accordance with the invention;

Figure 5 is a perspective view of a third embodiment of an anti-scaling device constructed in accordance with the invention;

Figure 6 is an expanded view of the embodiment shown in Figure 5;

Figure 7 is a perspective view of three bar-mounted illustrations of a fourth  
5 embodiment of an anti-scaling device constructed in accordance with the invention;  
and

Figure 8 is an expanded view of part of the fourth embodiment shown in Figure

7.

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### **Detailed Description of the Invention**

Referring to Figures 1, 2 and 3 the first embodiment of the device is composed of components moulded from a suitable plastics material and comprises a hollow central body portion 1 of a generally elongate cylindrical shape with a bore 9 extending  
15 along a central transverse axis 3. Extending radially in a diametrically opposed relationship from the central body portion 1 are two pairs of spigots (not shown) upon which separate spike units 5 are detachably and rotatably mounted. Each spike unit 5 has a central boss portion 21 composed of spaced apart webs 22 which taper inwardly to an apex 23. Surrounding the central portion 21 there are four arcuate blades 24  
20 with knife-like sharp edges 25 and a sharp tip 26. Each unit 5 has a hollow base collar 35 which fits onto one of the spigots 20. Conveniently the collar 35 may have an internal rib which snap-fits into a groove in the spigot 20 so as to retain the units 5 on the spigot 20 yet allow for rotation thereabout. Also extending radially in a diametrically opposed relationship from the central body portion are two pairs of

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serrated webs 7 having sharp edges 11 and points 13, these webs extend along axes displaced 45° from the spigot axes (for clarity, only two webs are illustrated in Figure 1).

5        Figure 4 shows the second embodiment of the device. Like the first embodiment this embodiment comprises a central body portion 1 with bore 9 and diametrically opposed spike units 5 (of which only one is shown). Spigots 20 detachably and rotatably mount the spike units 5 to the central body 1. Four axially aligned rows of sharp-edged teeth 15 are positioned along the central body.

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      Figures 5 and 6 show the third embodiment. The central body portion 1 is formed from two identical halves 17, 19. When assembled (Figure 5) the two halves 17, 19 form two radially extending and diametrically opposed sheath units 27. These sheath units 27 each comprise a radial dagger-like serrated blade 29, two diametrically-  
15    opposed axially aligned dagger-like serrated blades 31 and two externally serrated tangential sheaths 33. The sheaths 33 each hold a serrated two-bladed propeller 37 rotatably mounted analogous to the spike units 5 of the previous embodiments. The sheaths 33 allow the propellers 37 to partially rotate backwards and forwards as indicated by the arrows 39.

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      Figures 7 and 8 illustrate the fourth embodiment. In Figure 7 three central body portions 1 are rotatably mounted on a bar 40. Two spike units 5 are mounted on each central body portion 1 although only one is fully illustrated. The lower spike unit stem 41 represents the second spike unit in each case. As can be seen the two spike

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units are diametrically opposed. In another embodiment based on this fourth embodiment four diametrically opposed spike units per central body portion are present analogous to the first and second embodiments described above. As can be seen from Figure 8 in this fourth embodiment each spike unit 5 comprises a stem portion 43 and a cap portion 45. The stem portion 43 is attached to the central body and extends radially outwards to a moulded retention cup 47 which surrounds a radial pole 49 on which a moulded sphere 51 is mounted. Three serrated protrusions 53 extend radially from the retention cup 47. The cap portion 45 is covered in radially extending serrated protrusions 55 and sits on the moulded sphere 51 to pivot and rotate as a ball joint as illustrated by the arrows 57. A moulded spring is disposed on the pole 49 to centre the cap portion 45 generally as well as after tampering.

Although the present invention has been described with reference to several embodiments, it is apparent that the present invention is not limited to the aforesaid embodiments, but various modifications can be attained without departing from its scope.

**CLAIMS**

1. An anti-scaling device comprising a hollow central body portion (1) for  
5 mounting on a bar and several spike units (5) extending outwardly from the body  
portion (1) in different directions wherein the spike units (5) are rotatably mounted on  
the central body portion (1).
2. An anti-scaling device according to claim 1, wherein the spike units (5) are  
10 detachably mounted on the central body portion (1).
3. An anti-scaling device according to claims 1 or 2, wherein there are pairs of  
spike units (5) disposed in a diametrically opposed relationship relative to the central  
body portion (1).
- 15 4. An anti-scaling device according to any one or more of claims 1, 2 or 3,  
wherein the central body portion (1) has spigots (20) for mounting the spike units (5).
5. An anti-scaling device according to any one of claims 1, 2, 3 or 4 and further  
20 comprising serrated webs (7) extending outwardly from the central body portion (1)  
between the spike units (5).
6. An anti-scaling device according to claim 5, wherein the serrated webs (7)  
extend along radial axes displaced 45° from the radial axes of the spike units (5).

7. An anti-scaling device according to any one or more of claims 1, 2, 3 or 4, wherein rows of sharp-edged teeth (15) are axially aligned along the central body portion (1).

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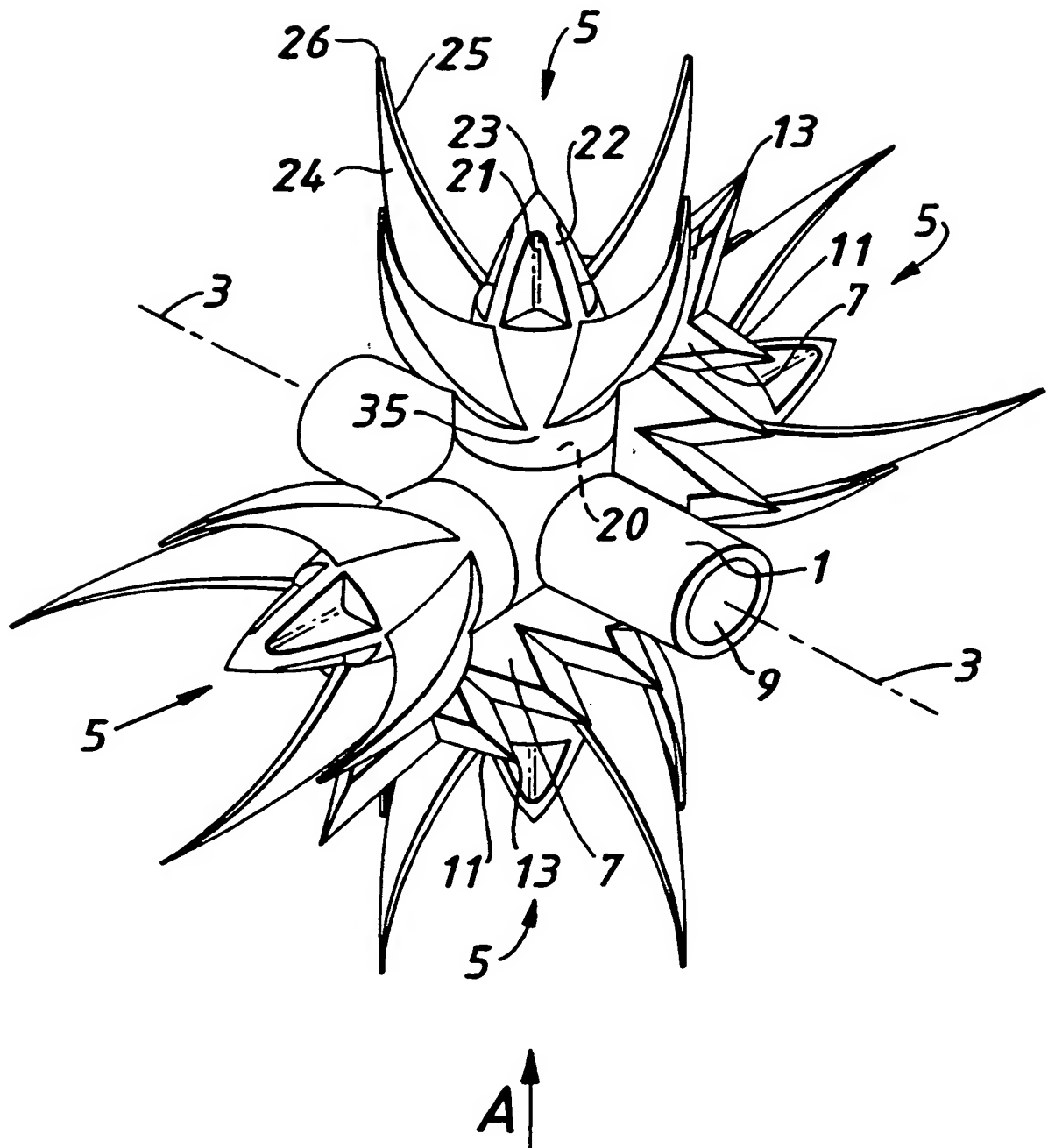
8. An anti-scaling device according to any one or more of claims 1 to 3, wherein the spike units (5) are in the form of partially rotatable serrated propellers (37).

9. An anti-scaling device according to any one or more of claims 1 to 4, wherein  
10 the spike units (5) are pivotably mounted.

10. An anti-scaling device according to any one or more of the preceding claims, wherein the device is moulded from a plastics material.

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FIG. 1.





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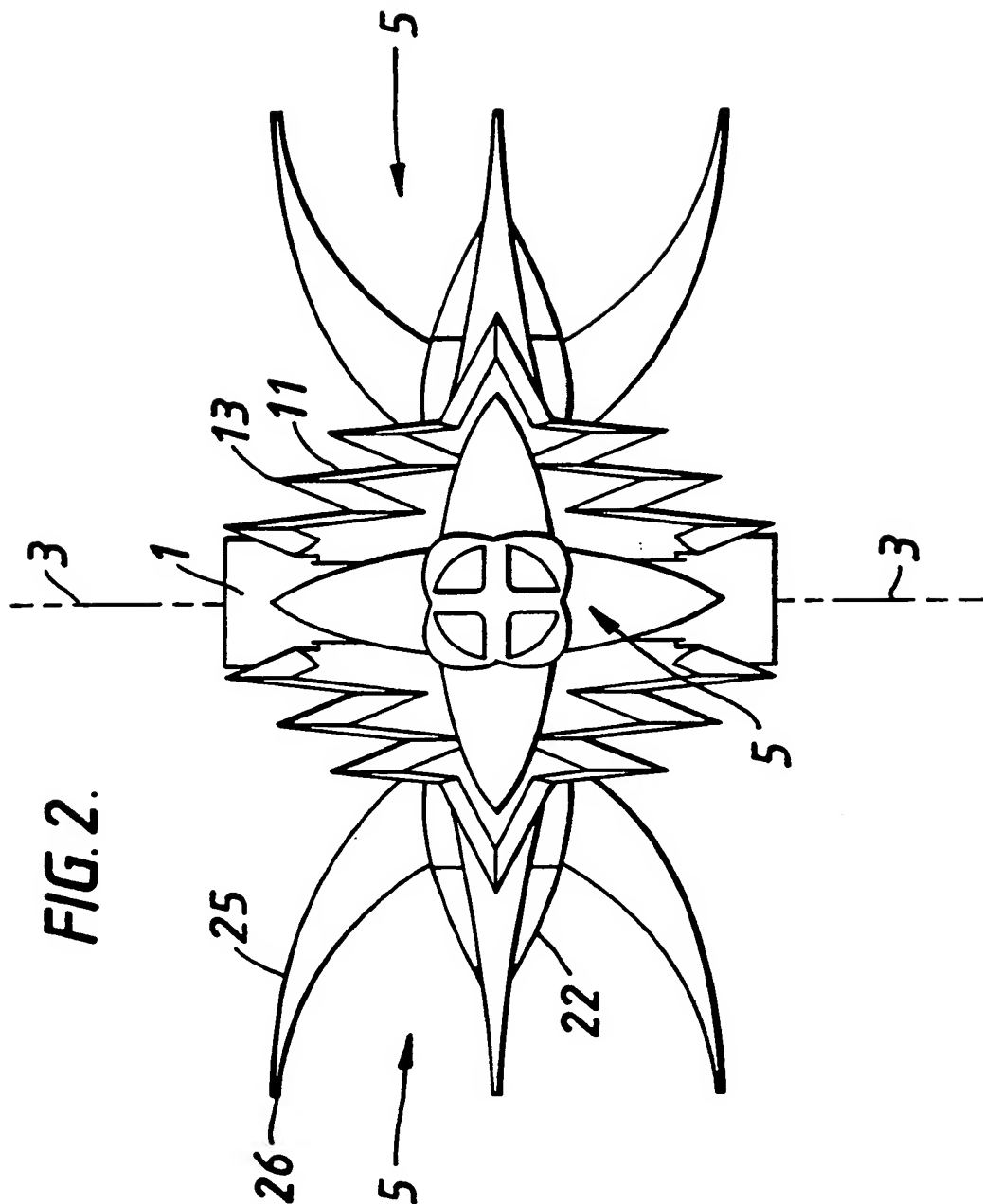
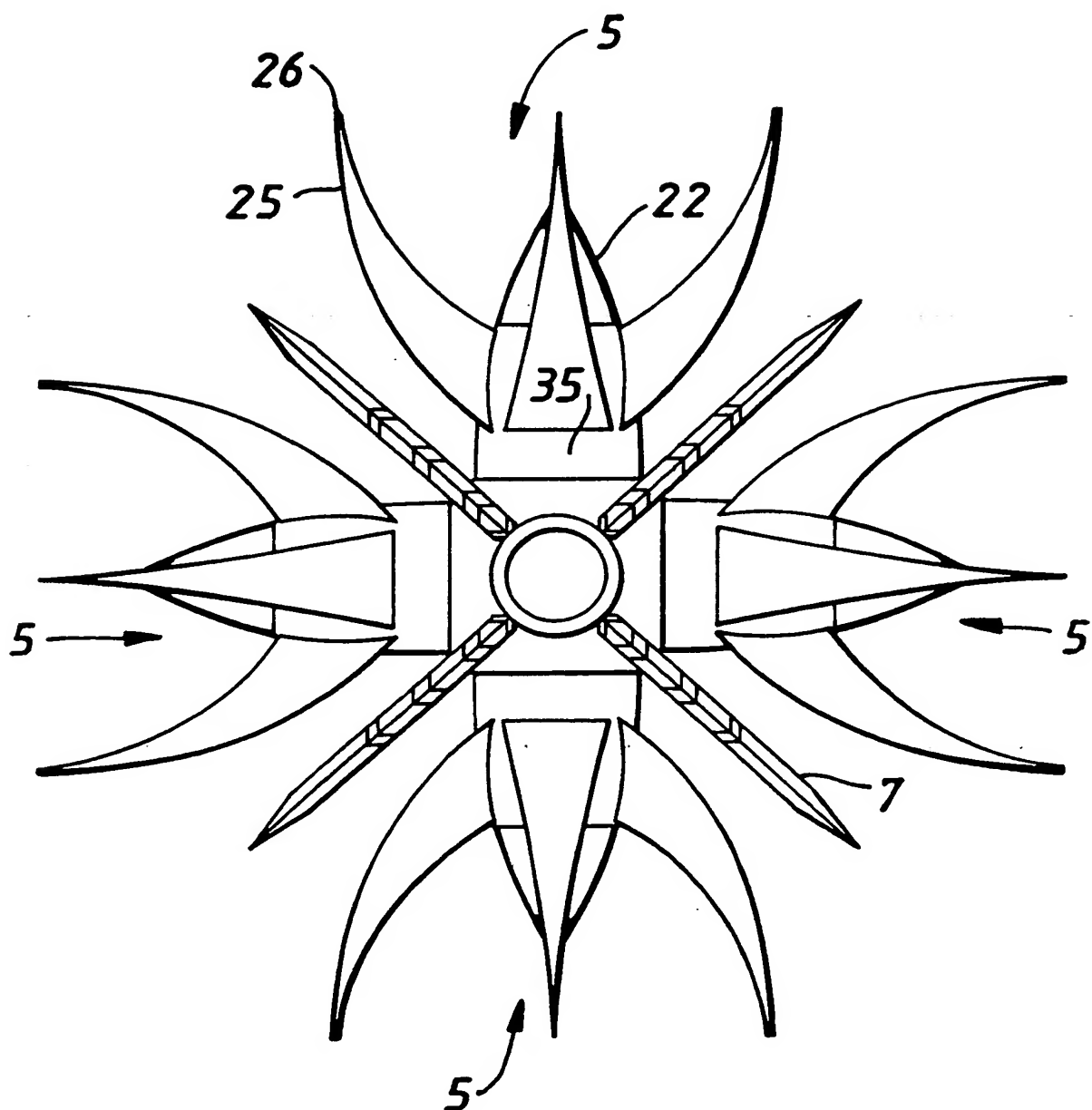


FIG. 2.

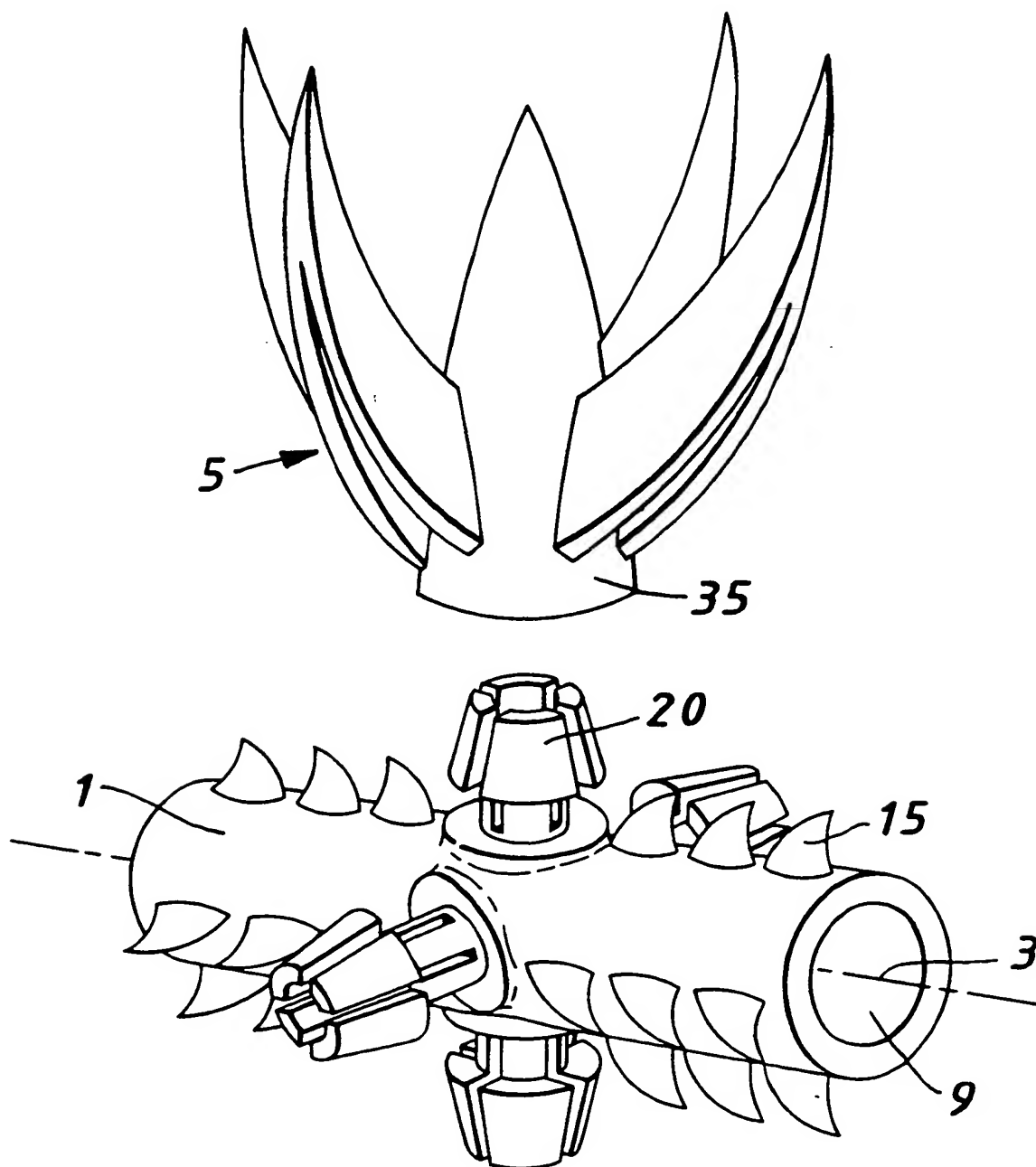
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FIG. 3.



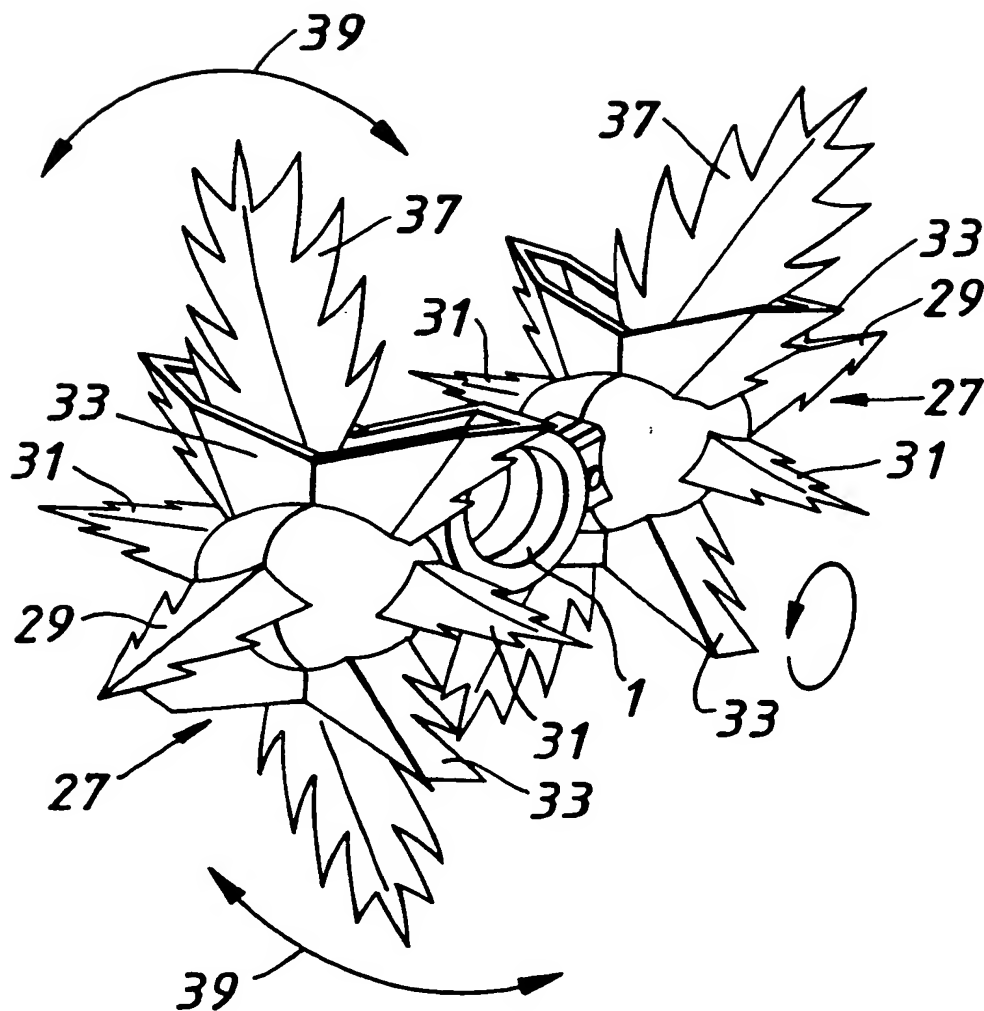
4/7

FIG. 4.

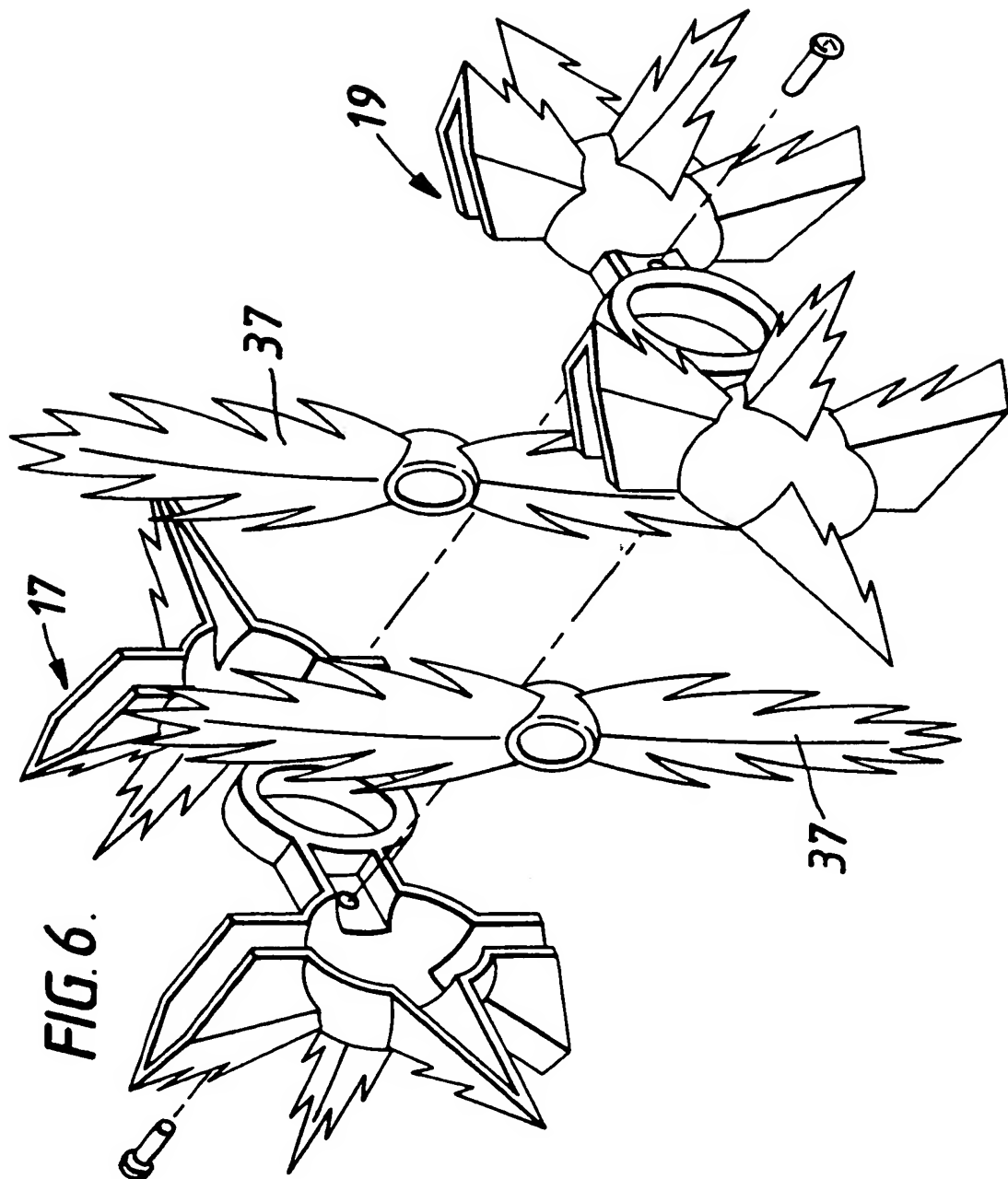


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FIG. 5.



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FIG. 7.

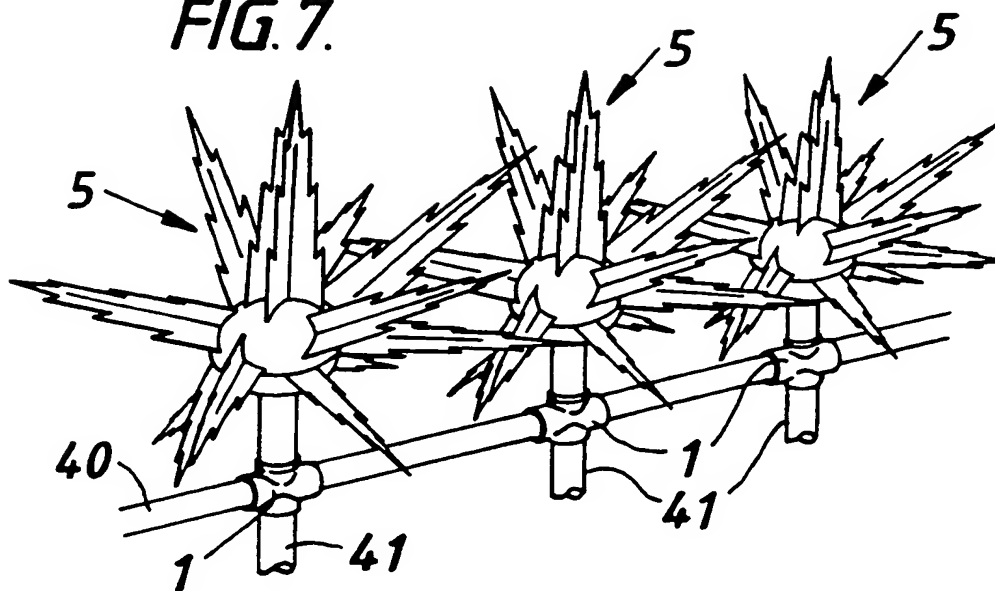
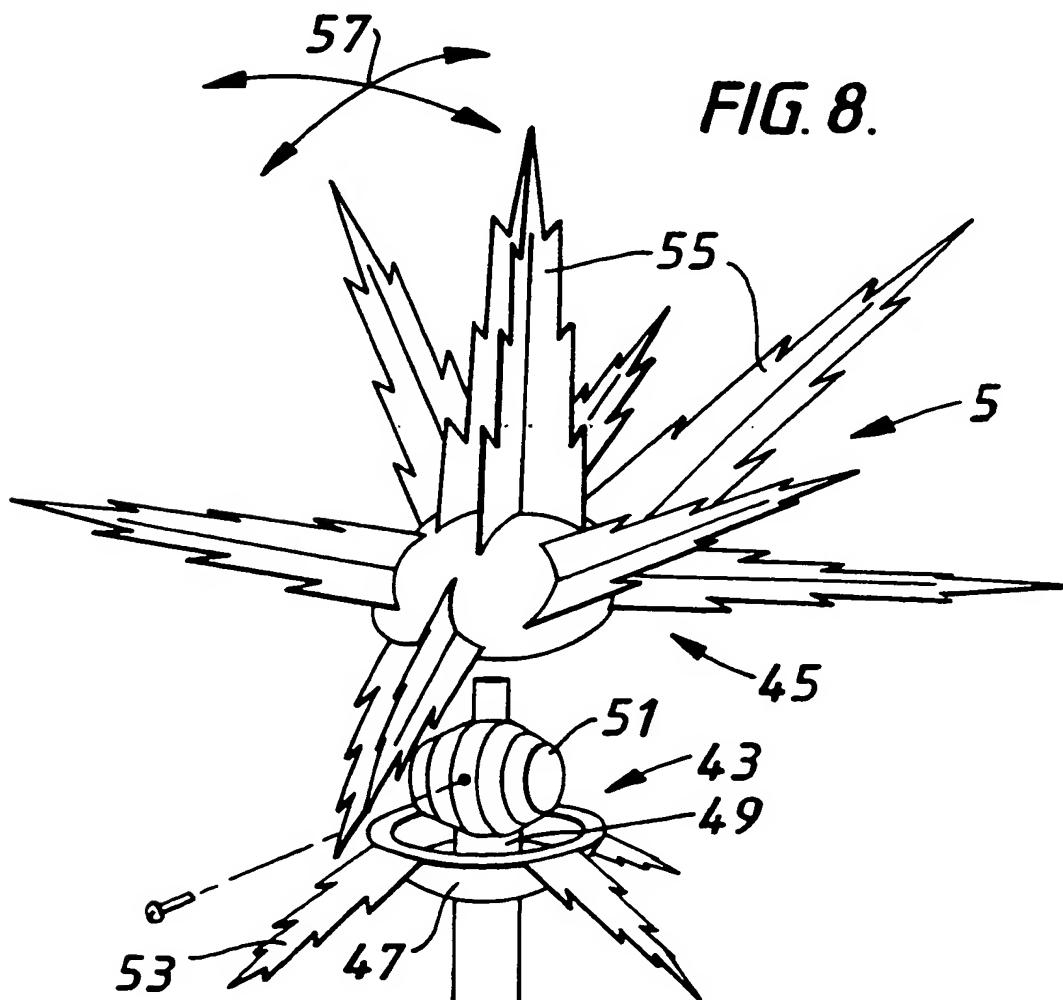


FIG. 8.



## INTERNATIONAL SEARCH REPORT

 Inv. Application No  
 PCT/GB 99/02435

 A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 E04H17/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

 Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 E04H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 242 092 A (HERCULES SECURITY FAB) 21 October 1987 (1987-10-21) column 2, line 48 -column 4, line 19; figures	1,3,5,10
Y	—	7
X	GB 2 225 598 A (SUMMERS DENNIS) 6 June 1990 (1990-06-06) page 3, line 4 -page 4, line 8; claim 6; figures 1,2	1,3
X	GB 2 234 273 A (WAITE DAVID PETER) 30 January 1991 (1991-01-30) page 7, line 9 - line 19; figure 5	1,3
Y	DE 86 24 656 U (H. LÖVEN) 22 January 1987 (1987-01-22) page 4, paragraph 1; figures 1,2	7
	— -/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

6 March 2000

Date of mailing of the international search report

13/03/2000

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# INTERNATIONAL SEARCH REPORT

Int. Application No.  
PCT/GB 99/02435

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Information on patent family members

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